

Geography for Life

Mapping Napoléon's Russian Disaster

Maps, diagrams, and graphs are widely used to display geographic information. The geographer must choose the best way to represent the relevant information. No single map can show everything. However, certain kinds of maps can show a remarkable amount.

Consider the approach that a French engineer took in creating a famous historical map. In 1861 Charles Joseph Minard illustrated French emperor Napoléon's 1812 invasion of Russia. On the eve of the invasion, Napoléon dominated much of Europe. However, his campaign in Russia was a disaster.

Minard's design tells a sad tale of death and misery. He used a shaded band to illustrate the changing size of Napoléon's army. Look at the left edge of the map, which shows the Polish-Russian border near the Neman River. Minard drew a thick band representing the 422,000 soldiers who swept into Russia across the river. He narrowed the band's width to show how battle losses gradually shrank the army's size as it marched eastward. When he reached Moscow, Napoléon led just 100,000 troops. After the people of Moscow burned the city, the army turned around in October to return

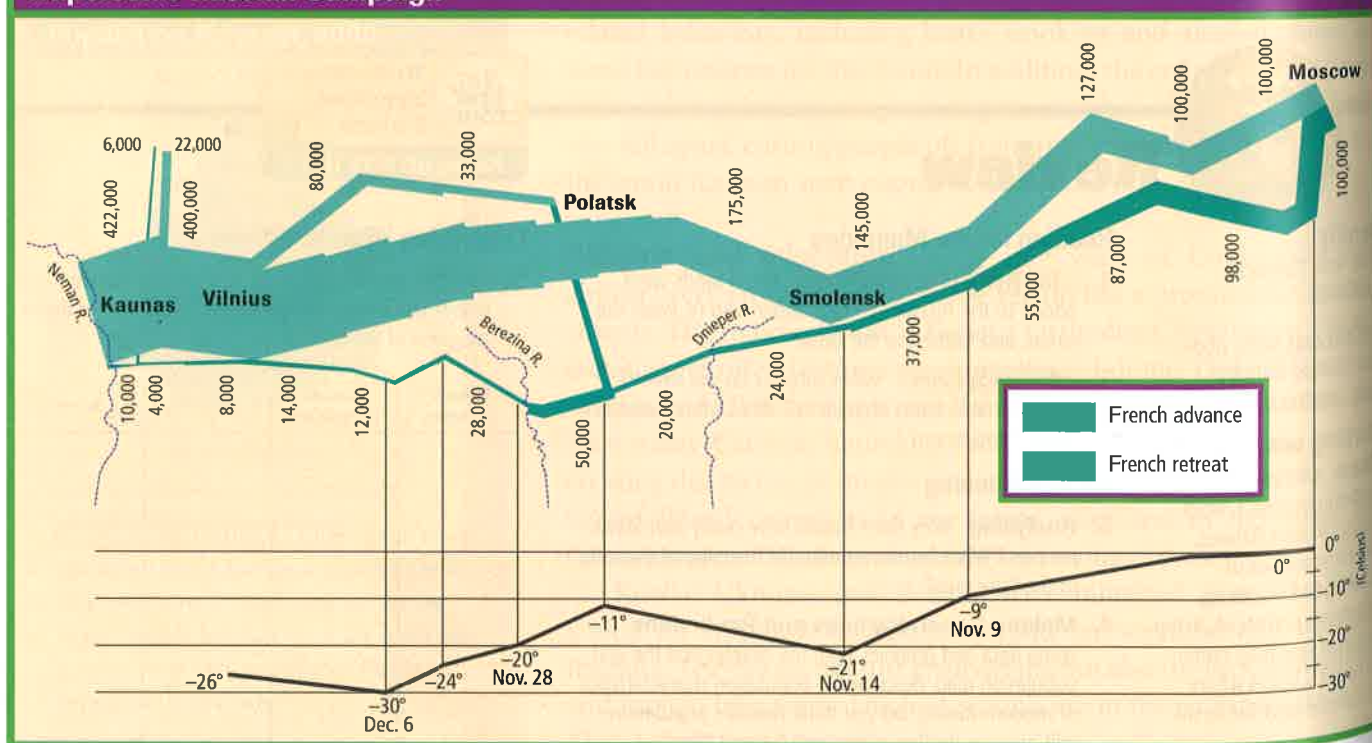
to France. Minard drew a darker, lower band to illustrate the retreat. A temperature scale across the bottom of the map is tied to the darker band. As you can see, bitter cold weather took a terrible toll on the army. Many soldiers froze or starved to death. After crossing the Berezina River, the army straggled back to Poland. Only about 10,000 soldiers survived the complete journey.

This illustration shows the army's size, its location on certain dates, its route, and temperatures the soldiers faced. Displaying a series of events that occurred over a vast space and several months is not easy. We might call Minard a storyteller as well as an engineer and cartographer.

Applying What You Know

- Summarizing** What features and information did Minard show on his map?
- Drawing Inferences and Conclusions** What do you think is shown by the extra arms that branch off of the main bands?

Napoléon's Russian Campaign



Section 3

The Region Today

READ TO DISCOVER

1. How have the economies of areas within the region developed?
2. What challenges does the region face?

WHY IT MATTERS

Any major economic and political changes in the world's largest country are of worldwide interest. Use onfyi.com or other **current events** sources to learn about the latest developments in Russia.

DEFINE

light industry
heavy industry
smelters

LOCATE

Vladivostok
Khabarovsk
Kuril Islands
Chernobyl

Economic Development

Belarus, Russia, and Ukraine are changing their economies to compete in new markets. The countries are working to develop **light industry**. Light industry focuses on the production of consumer goods, such as clothing or housewares. **Heavy industry**, which usually involves manufacturing based on metals, is becoming less important. Cities are becoming more like those in richer countries. New shopping centers, stores, and sidewalk stalls are opening. Paint and better maintenance brighten old apartment houses. Single-family houses, even some luxury homes, are being built.

The Moscow Region Moscow, with its huge Kremlin, has symbolized Russia for centuries. The city became the home of the Russian Orthodox Church in the 1300s and Russia's capital in the 1400s. Most Russians have looked to Moscow as their country's heart and soul. This was true even while St. Petersburg was the capital from 1712 to 1918.

Today greater Moscow is Russia's most important economic region. It is the national center of communications, culture, education, finance, politics, and transportation. More than 70 institutions of higher learning are there. As a result, Moscow's economic advantages are many. Roads, rails, and air routes link the capital to all points in Russia. The city's location also gives its businesses access to raw materials and labor.

The economic region around Moscow stretches for many miles in all directions. Millions of Russians live and work within the area's network of transportation routes and job sites. Among the transportation links is the world's busiest subway. The area also has electrified railroads and a major beltway.

INTERPRETING THE VISUAL RECORD

Two women relax near their salon at GUM, a Moscow shopping mall of more than 150 stores that receives some 300,000 visitors per day. GUM stands for Gosudarstvenny Universalny Magazine, or "State Department Store." **How does GUM compare to your community's shopping centers?**





Ballet dancers perform Pyotr Tchaikovsky's *Swan Lake* at the Mariinsky Theater in St. Petersburg. Tchaikovsky was one of Russia's many great composers.

The St. Petersburg Region Moscow reflects Russia's old values and traditions. In contrast, St. Petersburg represents the country's desire for Western ideas and practices. Located on the Gulf of Finland, it has been called the Venice of the North for its many canals. St. Petersburg has good transportation facilities. The city's location also eases trade and transportation links with other European cities. Major products include chemicals, machinery, ships, and textiles. Many cultural attractions and universities draw tourists and high-tech industries.

The Volga and Urals Regions Heavy industry lines Russia's Volga River and the Ural Mountains. Hydroelectricity is abundant there. Dams that produce power have also turned the Volga into a chain of lakes. Refineries and petrochemical plants process oil and gas. Russia's largest car and truck factories are in the area.

Nearly every important mineral except coal and oil has been discovered in the Urals. These resources laid the base for industrial development. Copper and iron **smelters**, factories that process metal ores, are still important.

Siberia For centuries, Russians saw Siberia as a frontier treasure chest of furs, gold, and lumber. However, opening this cold harsh region has been difficult. Now Siberian settlement, farming, and industry mostly follow the Trans-Siberian Railroad. The building of the railway started in 1891. It eventually connected Moscow to Vladivostok (vla-duh-vuh-STAHK) on the Sea of Japan. At about 5,800 miles (9,330 km), it is the longest single rail line in the world. Workers completed a more direct railway, called the Baikal-Amur Mainline (BAM), across eastern Siberia in 1989. Permafrost and other difficult conditions made building these lines a great feat.

Lumbering, mining, and oil production are Siberia's most important industries. Because wages are higher in Siberia, some Russians move there to work. Still, large areas of Siberia have few people or none at all.

INTERPRETING THE VISUAL RECORD

Workers lay a pipeline that will transport natural gas westward from Siberia. **How do you think these workers adapt to Siberia's environment in order to do their jobs?**



The Russian Far East Russia has a long coastline on the Pacific Ocean. There, in the Russian Far East, much land remains heavily forested. Summer weather is mild enough for farming in the Amur River valley. Khabarovsk (kuh-BAHR-uhfsk), the main inland city, has factories that process forest and mineral resources. Vladivostok is a naval base and the chief seaport and fishing center.

Sakhalin Island, with its oil and mineral resources, lies off the eastern coast of Siberia in the Sea of Okhotsk. The Kuril (KYOOHR-eel) Islands, which are important for commercial fishing, are farther east. Russia took the islands from Japan at the end of World War II. Japan claims that four of them should be returned. If the two countries settle the issue, Japan may invest more in the Russian Far East and Siberia.

Ukraine and Kiev Kiev is Ukraine's capital. Sheltered by high bluffs in the Dnieper River valley, it is an attractive city. About 10 percent of Ukraine's population lives there. The city also has a large share of the country's economic activity. Like Moscow, Kiev is centrally located in a region rich with agricultural, energy, industrial, and human resources. Kiev's winning soccer team, Dynamo, is an important symbol for the city.

Wheat, sunflowers (for cooking oil), and sugar beets are common crops in Ukraine. The country exports a wide variety of fruits, vegetables, and animal products. Ukraine's heavy industry is based on coal, iron, manganese, and other metals. These resources led to concentration of metalworking in the Donets Basin and along the Dnieper River. Ukraine's moderate climate, access to expanding markets, and resources may help it attract new investment over time.

INTERPRETING THE VISUAL RECORD Kiev is one of the oldest cities in Europe. What characteristic of the region's housing patterns is visible in the photo?



Trading on the Russian stock market

The Russian Stock Market

Stock markets allow businesses to grow by using other people's money. In turn, when investors buy shares in businesses they get the chance to make a profit. The New York Stock Exchange began operating in 1792. In contrast, Russia's stock market organized in 1994. For the first time, Russian citizens could buy shares in businesses that had previously been run by the government. More than 70 percent of the Russian economy was in private hands by 1995. By 1997 investment in Russian stocks by both banks and individuals was booming. However, a year later overestimation of businesses' worth, scandals, and swindles caused stock prices to fall. Many investors' profits were wiped out. Buying stock on the Russian exchange is still risky. Most stocks are cheap, but buyers can easily lose their money. On the other hand, those willing to do their homework and take risks can reap big rewards.

Making Generalizations and Predictions

How would building a stable stock market contribute to Russia's efforts to build a strong market economy?

Belarus and Minsk Belarus has few mineral resources and generally poor soil. As a result, the country has relied on its educated labor force to build its economy. The remaining forests support wood products industries. Peat is still used as a fuel, even though burning it causes air pollution. Minsk, the capital, has many of the country's industries. Its outdated motor vehicle and consumer-goods plants are left over from the Soviet era.

✓ **READING CHECK: Places and Regions** What economic advantages do some of these areas have?

Issues and Challenges

Belarus, Russia, and Ukraine face serious challenges as they move from command to market economies and democracy. Holding free elections was an early and fairly easy step. Much harder is creating the social and economic structures that support peace and prosperity.

Political and Economic Challenges Tension between supporters and opponents of reform and among ethnic groups has grown. Unemployment and crime have increased. The gap between rich and poor is also growing. Public health care has declined. Many older, unemployed, and ill people find that the safety net the old Soviet government provided is gone. Still, Russians have experienced relatively peaceful changes in government after free elections.

Placing business in private hands has had mixed results. A few people have become rich, but some did so through unfair means. Many of the newly rich do not pay their taxes. Some have turned to crime to protect their wealth and power. In addition, members of the new middle class do not feel secure. Many of them fear that the government may again take over homes and businesses.

Many economists argue that several features of the region's economies need reform. For example, factories and transportation systems need to be repaired and modernized. Corrupt officials and managers should be replaced. Also, more businesses must switch to making better goods that people around the world really want to buy. Rules that limit movement of people, money, and goods should be changed. Courts that should be able to force payment of debts, but cannot, need to be strengthened.

Geographical Challenges The Soviet Union was committed to developing local economies in remote places. This policy is less important today. People are moving from their homes in Siberia and other distant areas back to the European heartland. Some observers fear that whole industrial and mining districts will be emptied.

The Soviet history of environmental pollution created another serious challenge. In its rush to make the country an economic power, the Soviet

INTERPRETING THE VISUAL RECORD

Homeless poor people have created this tent city near Red Square in Moscow. How might this woman's views on Russia's market economy compare to the opinions of a trader on Russia's stock market?





Smelters in the Murmansk area have contributed to high pollution levels. According to reports, acid rain has killed all forests within a 12 mile (20 km) radius of Monchegorsk, the town pictured.

government paid little attention to environmental issues. As a result, huge areas are ruined by pollution. Today the region's governments have little money to repair damage or require environmental safeguards. Therefore, these problems will remain for some time.

Perhaps the worst example of environmental damage in the former Soviet Union is in Ukraine. In 1986 a disastrous accident happened at the nuclear power plant at Chernobyl, north of Kiev. The Soviet government tried to cover up the story but failed. Radiation from explosions and fires contaminated millions of acres of forest and farmland. It spread as far away as Sweden and France. People cannot return to the immediate area for many years to come.

Finding solutions to these environmental problems and other challenges will be difficult. However, they are not impossible to overcome. The future of the countries that once belonged to the Soviet Union is not necessarily a prisoner to the past.

READING CHECK: **Human Systems** What political, economic, social, and environmental challenges do people in the region face today?



Review

Define light industry, heavy industry, smelters

Working with Sketch Maps On the map you created in Section 2, label Vladivostok, Khabarovsk, Kuril Islands, Donets Basin, and Chernobyl. Circle the area at the center of a dispute with Japan.

Reading for the Main Idea

1. **Human Systems** What basic change in emphasis is occurring in Russian industry?

2. **Human Systems** Why might Ukraine attract new investment?

Critical Thinking

3. **Identifying Cause and Effect** How did Soviet economic policies affect the region's environment? What are some examples?

4. **Drawing Inferences and Conclusions** Why might Russia's unstable political system delay economic progress?



Keyword: SW3 HP17

Organizing What You Know

5. Copy the graphic organizer below. Use it to identify factors that could fuel each subregion's economic growth. One is started for you.

Moscow Region	
St. Petersburg Region	good transportation
Volga and Urals Region	
Siberia	
Russian Far East	
Ukraine and Kiev	
Belarus and Minsk	

CITIES & SETTLEMENTS

St. Petersburg

Places and Regions It has been called Russia's Window on the West and the Venice of the North. It has appeared on maps as St. Petersburg, Petrograd, and Leningrad. However, by any name, St. Petersburg is a beautiful and important city. In fact, in the 1990s the city was officially recognized as the cultural capital of Russia. It was also the political capital for a long period of Russia's history. Now St. Petersburg is regaining its reputation as one of the world's great historical cities.

A City Born of War

Russia was an isolated and poorly developed country for much of its early history. In the late 1600s the Russian czar Peter I wanted a seaport through which trade and the latest European ideas could enter Russia. However, Sweden controlled the Baltic Sea to the west, while the Turks controlled the Black Sea to the south. In 1703 the Russians drove the Swedes from the Baltic's eastern shore. There, where the Neva River empties into the sea, the czar—Peter the Great—founded a new city. He modeled his city, which carries his name, after London and Amsterdam. He hired French and Italian architects to design it. Peter himself laid the foundation stones for the city's fortress on May 27 of 1703. This is the city's official founding date.

St. Petersburg's success was ensured in 1712 when it replaced Moscow as Russia's capital. Peter ordered the country's nobles to move to the new city. Many built grand homes there. Over the next 200 years St. Petersburg developed into Russia's chief port and industrial center. It also became a center for art, literature, and music. The culture that developed



More than 200 pounds of gold cover the dome of St. Isaac's Cathedral. Like many other St. Petersburg monuments, it is now a museum.

there was both European and Russian.

In 1914 the city's name was changed to Petrograd—the Russian form of *St. Petersburg*. In 1917 the Russian Revolution broke out, and Petrograd was a center of revolutionary activity. The new Communist rulers then moved the capital back to Moscow. In 1924, after the Soviet leader Lenin died, the city was renamed Leningrad. It was not called St. Petersburg again until 1991.

World War II caused heavy damage in Leningrad. German troops surrounded the city for 872 days and shelled it constantly. However, Leningrad never surrendered and the siege was finally

broken. When the war ended, people began restoring the city's old buildings to their original splendor. This expensive and painstaking work continues today, more than half a century later.

Environmental Challenges

Besides the destruction of war, St. Petersburg has had to deal with a difficult physical environment. The city is built on more than 40 islands. These islands are created by the Neva River delta and by smaller rivers that flow into the Neva near its mouth. Because of the many water channels that course through St. Petersburg, special construction methods have been required to keep buildings from sinking. St. Isaac's Cathedral, for example, rests on 10,000 upright tree trunks driven into the ground in the early 1800s.

St. Petersburg's location exposes it to threats from the sea. In fall and early winter, storms and strong winds move across the Baltic Sea from the west. These storms drive seawater upstream at the mouth of the



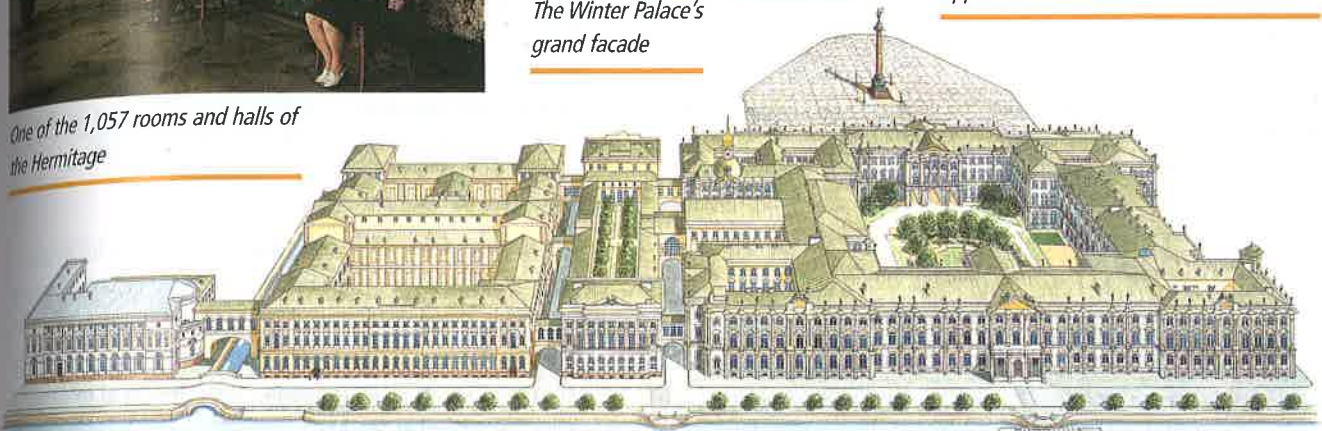
One of the 1,057 rooms and halls of the Hermitage



The Winter Palace's grand facade



Interior of the palace's winter garden as it appeared in 1840



The Winter Palace was built during the reign of Peter's daughter Elizabeth I in the mid-1700s. It was home to the country's rulers until the Russian

Revolution in 1917. Today the palace is part of the State Hermitage Museum, which houses the art amassed by Russia's rulers.

Neva River. Since the downtown area is just a few feet above sea level, flooding often occurs. In fact, St. Petersburg has suffered more than 270 major floods during its 300-year history.

St. Petersburg, which is home to some 5 million people, is located quite far north for a major city. Winters are long and cold, with daytime highs averaging about 23°F (−5°C). Because the city is so far north, winter daylight hours are short—about six hours each day. For about three weeks in June and July, the sky does not get completely dark. From about 11:00 P.M. until 3:00 A.M. the evening twilight merges into dawn. These are St. Petersburg's famous "white nights." Many celebrations and cultural events take place during this time of the year. For example, the Stars of the White Nights Festival brings music lovers from all over the world to St. Petersburg.

Russia's Cultural Capital

Compared to other places in Russia, St. Petersburg fared well during the more than 70 years of Communist rule. The government poured large sums of

money into arts and culture. Under government sponsorship, the city's Kirov Ballet became one of the world's great dance companies. Government funds were also used to rebuild historic palaces and to maintain the city's many spectacular museums. Despite the Communists' limits on free expression, a secret community of artists and musicians developed and thrived.

Today music and art are alive all over St. Petersburg. The city's best-known attraction, the State Hermitage Museum, is home to one of the world's greatest art collections. Moscow may be Russia's political capital. However, the people of St. Petersburg are determined that their city will be the capital of Russian history and culture.

Applying What You Know

- 1. Summarizing** How does St. Petersburg differ from most other major world cities?
- 2. Analyzing Information** How has St. Petersburg's history as a cultural and political capital influenced its economy?